



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0156; Project Identifier AD-2020-01594-T; Amendment 39-21650; AD 2021-15-03]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation (Gulfstream) Model GVII-G500 airplanes. This AD results from flap yoke fittings with design features that cause decreased fatigue life. This AD requires replacing the flap inboard and outboard yoke fitting assemblies and establishing a 20,000 flight cycle life limit for the fittings. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0156.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0156; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Jeffrey Johnson, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Ave., College Park, GA 30337; phone: (404) 474-5554; fax: (404) 474-5606; email: jeffrey.d.johnson@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Gulfstream Aerospace Corporation (Gulfstream) Model GVII-G500 airplanes. The NPRM published in the *Federal Register* on May 7, 2021 (86 FR 24546). The NPRM was prompted by a failure that occurred during flight testing of a Gulfstream Model GVII-G500 airplane, when the aircraft was configuring for a steep approach test point, the crew received a flap failure message. After landing, inspection revealed that the left-hand flap track 'B' yoke had become disconnected due to structural failure. Gulfstream's investigation to determine the root cause of the failure revealed that the flap yoke fittings for certain serial-numbered Gulfstream Model GVII-G500 airplanes have design features that cause decreased fatigue life. In the NPRM, the FAA proposed to require replacing the flap inboard and outboard yoke fitting assemblies and revising the Airworthiness Limitations Instructions of your existing aircraft maintenance manual (AMM) to incorporate a 20,000 flight cycle life limit. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed Gulfstream GVII-G500 Aircraft Service Change No. 032, Initial Issue, dated November 20, 2020 (Gulfstream ASC No. 032). This service information specifies procedures for replacing the flap inboard and outboard yoke fitting assemblies and upper bushings. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Other Related Service Information

The FAA reviewed Gulfstream GVII-500 Customer Bulletin No. 045, Initial Issue, dated November 20, 2020. This service information specifies the compliance time and additional information for Gulfstream ASC No. 032. The FAA also reviewed Gulfstream Aerospace GVII-G500 Aircraft Maintenance Manual Document Number GAC-AC-GVII-G500-AMM-0001, Revision 7, dated December 15, 2020. This document contains revised airworthiness limitations, maintenance checks, and inspections.

Differences Between this AD and the Service Information

Gulfstream ASC No. 032 contains actions labeled “Required for Compliance” (RC), and the language in Gulfstream ASC No. 032 and in paragraph (h)(3) of this AD indicates that operators must comply with all actions labeled RC for compliance with this AD. However, this AD does not require all of the steps in Gulfstream ASC No. 032 that are labeled as RC. Operators only need to comply with the RC steps specified in

paragraph (g) of this AD.

Costs of Compliance

The FAA estimates that this AD affects 85 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Replace the flap inboard and outboard yoke fitting assemblies and update the existing AMM.	83.5 work-hours x \$85.00 per hour = \$7,097.50	\$8,015.00	\$15,112.50	\$1,284,562.50

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2021-15-03 Gulfstream Aerospace Corporation: Amendment 39-21650; Docket No. FAA-2021-0156; Project Identifier AD-2020-01594-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace Corporation Model GVII-G500 airplanes, serial numbers 72001 through 72085, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 5753, Trailing Edge Flaps.

(e) Unsafe Condition

This AD results from flap yoke fittings with design features that cause decreased fatigue life. The FAA is issuing this AD to prevent failure of the flap yoke fitting. The unsafe condition, if not addressed, could result in failure of the flap yoke fitting during flap transition, which could cause the flaps to stop moving. This, combined with

additional failures in the flap actuator force limiter or flap yoke actuator disconnect, could result in asymmetric flap positions leading to a loss of airplane control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 24 months after the effective date of this AD or within 500 flight cycles after the effective date of this AD, whichever occurs first, replace each flap yoke

fitting assembly by following Sections III.A.2 through III.D of the Modification Instructions in Gulfstream GVII-G500 Aircraft Service Change No. 032, Initial Issue, dated November 20, 2020.

(2) Within 24 months after the effective date of this AD, revise the existing Airworthiness Limitations section of the Instructions for Continued Airworthiness or aircraft inspection program for your airplane by establishing a life limit of 20,000 flight cycles for each flap yoke fitting part number 72P5755095A001, 72P5755096A001, 72P5755097A001, and 72P5755098A001.

Note 1 to paragraph (g)(2): Section 05-10-10 of Gulfstream Aerospace GVII-G500 Aircraft Maintenance Manual Document Number GAC-AC-GVII-G500-AMM-0001, Revision 7, dated December 15, 2020, contains the life limit in paragraph (g)(2) of this AD.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) For service information that contains steps that are labeled as Required for Compliance (RC), the following provisions apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining

approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(i) Related Information

For more information about this AD, contact Jeffrey Johnson, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Ave., College Park, GA 30337; phone: (404) 474-5554; fax: (404) 474-5606; email: jeffrey.d.johnson@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Gulfstream GVII-G500 Aircraft Service Change No. 032, Initial Issue, dated November 20, 2020.

(ii) [Reserved]

(3) For Gulfstream Aerospace Corporation service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on July 15, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2021-15473 Filed: 7/21/2021 8:45 am; Publication Date: 7/22/2021]